

CLAIMS

What is claimed is:

1. A milling cutter tool, comprising:
a milling cutter body having a plurality of insert pockets, in combination with an indexable cutting insert tangentially mounted in the insert pocket, each cutting insert comprising a body defined by first and second face surfaces, first and second long edge surfaces, and first and second radiused shorter edge surfaces, wherein each indexable cutting insert is tangentially mounted with a reverse lead angle.
2. The milling cutter tool according to Claim 1, wherein the reverse lead angle is approximately 5 degrees.
3. The milling cutter tool according to Claim 1, wherein each indexable cutting insert is tangentially mounted with a negative axial rake angle of approximately 5 degrees.
4. The milling cutter tool according to Claim 1, wherein each long edge surface defines a cutting face that includes a profile defined by a substantially flat central plateau, a first facet face, a second facet face and a third facet face.
5. The milling cutter tool according to Claim 4, wherein the first facet face has a downward angle in a range of approximately 5° to 45° with respect to a longitudinal axis of the cutting insert.
6. The milling cutter tool according to Claim 5, wherein the downward angle is approximately 30° with respect to the longitudinal axis of the cutting insert.
7. The milling cutter tool according to Claim 5, wherein the third facet face has an upward angle in a range of approximately 5° to 45° with respect to a longitudinal axis of the cutting insert.

8. The milling cutter tool according to Claim 7, wherein the upward angle is approximately 20° with respect to the longitudinal axis of the cutting insert.

9. The milling cutter tool according to Claim 5, wherein the central plateau is generally hexagonal in shape that includes a pair of opposite sides and two pair of angled sides.

10. The milling cutter tool according to Claim 1, wherein a cutting edge is defined along an intersection of one of the first and second face surfaces with one of the first and second long edge surfaces and one of first and second shorter radiused edge surfaces.

11. The milling cutter tool according to Claim 10, wherein the cutting edge is further defined by a pair of cutting edges defined by an intersection of the first long edge surface with the first face surface and an intersection of the first long edge surface with the first shorter radiused edge surface adjacent the first face surface.

12. A tangentially mounted indexable cutting insert for a milling cutter tool, comprising:

a body defined by first and second face surfaces;

first and second long edge surfaces; and

first and second radiused shorter edge surfaces,

wherein each long edge surface defines a cutting face that includes a profile defined by a substantially flat central plateau, a first facet face, a second facet face and a third facet face.

13. The milling cutter tool according to Claim 12, wherein the first facet face has a downward angle in a range of approximately 5° to 45° with respect to a longitudinal axis of the cutting insert.

14. The cutting insert according to Claim 13, wherein the downward angle is approximately 30° with respect to the longitudinal axis of the cutting insert.

15. The milling cutter tool according to Claim 12, wherein the third facet face has a downward angle in a range of approximately 5° to 45° with respect to a longitudinal axis of the cutting insert.
16. The cutting insert according to Claim 15, wherein the upward angle is approximately 20° with respect to a longitudinal axis of the cutting insert.
17. The cutting insert according to Claim 12, wherein the central plateau is generally hexagonal in shape that includes a pair of opposite sides and two pair of angled sides.
18. The cutting insert according to Claim 12, wherein a cutting edge is defined along an intersection of one of the first and second face surfaces with one of the first and second long edge surfaces and one of first and second shorter radiused edge surfaces.
19. The cutting insert according to Claim 18, wherein the cutting edge is further defined by a pair of cutting edges defined by an intersection of the first long edge surface with the first face surface and an intersection of the first long edge surface with the first shorter radiused edge surface adjacent the first face surface.
20. The cutting insert according to Claim 12, wherein the cutting insert is tangentially mounted with a reverse lead angle.
21. The cutting insert according to Claim 20, wherein the reverse lead angle is approximately 5 degrees.
22. The cutting insert according to Claim 12, wherein each indexable cutting insert is tangentially mounted to the milling cutter tool with a negative axial rake angle of approximately 5 degrees.